## **EAST Search History**

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	5	"551732".ap.	US-PGPUB; USPAT	ADJ	ON	2007/12/10 09:05
S2	6	("20050268999"   "20070023281"   "6331233"   "6348113"   "6348139"   "7156963"). PN.	US-PGPUB; USPAT	ADJ	ON	2007/12/10 09:06
S3	154	148/668.cds.	US-PGPUB; USPAT	ADJ	ON	2007/12/11 14:10
S4	63	148/668.cds. and (tantalum or ta)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 14:10
S5	3	(tantalum or ta) and (nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 14:29
S6	16	(tantalum or ta) and (non-recrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 14:30
S7	0	148/668.ccls. and (tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 14:48
S8	273	204/298.12.ccls. and (tantalum or ta)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:04
S9	2	204/298.12.ccls. and (tantalum or ta) and (nonrecrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:04
S10	4	(sputter\$4 with target) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:11
S11	8	(sputter\$4) and (non- recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:14
S12	1	ta sputtering targets method manufacturing	EPO	ADJ	ON	2007/12/11 15:20
S13	605	(tantalum or ta) and (sputter\$4 and (Vicker\$3 with hardness))	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:34
S14	143	((tantalum or ta) with (sputter\$4)) and (Vicker \$3 with hardness)	US-PGPUB; USPAT	ADJ	ON	2007/12/11 15:35
S15	1	("20030082864").PN.	US-PGPUB; USPAT	OR	OFF	2007/12/11 15:45

S16	1	("20070089815").PN.	US-PGPUB; USPAT	OR	OFF	2007/12/11 15:50
S17	1	("20050284546").PN.	US-PGPUB; USPAT	OR	OFF	2007/12/11 15:51
S18	1	("6193821").PN.	US-PGPUB; USPAT	OR	OFF	2007/12/11 15:55
S19	10	(sputter\$4) and (non- recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/12/12 08:21
S20	313	tantalum and sputter\$4 target	JPO; DERWENT	ADJ	ON	2007/12/12 08:45
S21	12	tantalum and sputter\$4 target and \$4recrystal\$8	JPO; DERWENT	ADJ	ON	2007/12/12 08:46
S22	2	(sputter\$4) and (non- recrystal\$8 or nonrecrystal\$8)	EPO; JPO; DERWENT	ADJ	ON	2007/12/12 08:51
S23	4	(target) and (non- recrystal\$8 or nonrecrystal\$8)	EPO; JPO; DERWENT	ADJ	ON	2007/12/12 08:52
S24	55	(target) and (non- recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/12 08:57
<b>S2</b> 5	18	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2007/12/12 09:17
S26	924	(tantalum or ta) with hardness	US-PGPUB; USPAT	ADJ	ON	2007/12/12 09:37
\$27	43	(tantalum or ta) with hardness with vicker	US-PGPUB; USPAT	ADJ	ON	2007/12/12 09:37
S28	57	(tantalum or ta) with hardness with vicker	JPO; DERWENT	ADJ	ON	2007/12/12 09:39
S29	18	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2008/09/25 13:55
S30	19	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8 or non recrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2008/09/25 13:56
S31	758	(tantalum or ta) same \$5recrystal\$8	US-PGPUB; USPAT	ADJ	ON	2008/09/25 14:05
S32	140	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4	US-PGPUB; USPAT	ADJ	ON	2008/09/25 14:06
S33	71	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and target	US-PGPUB; USPAT	ADJ	ON	2008/09/25 14:07

S34	67	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and sputter \$3	US-PGPUB; USPAT	ADJ	ON	2008/09/25 14:07
S35	22	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT; USOOR; EPO; JPO	ADJ	ON	2008/09/25 14:49
S36	0	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	JPO	ADJ	ON	2008/09/25 14:50
S37	77	(non recrystal\$8 or non- recrystal\$8 or nonrecrystal\$8)	JPO	ADJ	ON	2008/09/25 14:50
S38	0	(non recrystal\$8 or non- recrystal\$8 or nonrecrystal\$8) and (tantalum or ta)	JPO	ADJ	ON	2008/09/25 14:50
S39	0	(non recrystal\$8 or non- recrystal\$8 or nonrecrystal\$8) and (sputter)	JPO	ADJ	ON	2008/09/25 14:50
S40	1	(non recrystal\$8 or non- recrystal\$8 or nonrecrystal\$8) and (sputter\$5)	JPO	ADJ	ON	2008/09/25 14:50
S41	1	(non recrystal\$8 or non- recrystal\$8 or nonrecrystal\$8) and target	JPO	ADJ	ON	2008/09/25 14:51
S42	1	"08269701"	JPO	ADJ	ON	2008/09/25 15:13
S43	24	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8 or non recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:15
S44	19	"6348139"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:18
S45	55	"6348113"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:20
S46	1449	(tantalum or Ta) with target and (anneal\$4 same temperature)	US-PGPUB; USPAT; USOOR; EPO; JPO	ADJ	ON	2008/09/25 15:29
S47	167	(tantalum or Ta) with target and (anneal\$4 same temperature) and \$5recrystal\$8	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:29

S48	160	(tantalum or Ta) with target and (anneal\$4 same temperature) and \$5recrystal\$8 and sputter \$3	US PGPUB; USPAT; USOOR; EPO; JPO	ADJ	ON	2008/09/25 15:29
S49	3	(tantalum or Ta) with target and (anneal\$4 same temperature) and non-recrystal\$8 and sputter\$3	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:32
S50	4	(tantalum or Ta) with target and (anneal\$4) and non-recrystal\$8 and sputter\$3	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:46
S51	5	(tantalum or Ta) with target and (anneal\$4) and non-recrystal\$8	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:47
S52	5	(tantalum or Ta) with target and (anneal\$4) and (nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:49
S53	32	target and (anneal\$4) and (nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:49
S54	91	Yamakoshi.in. and target	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:51
S55	1	Yamakoshi.in. and target and (nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:52
<b>S</b> 56	7	target same (nonrecrystal \$8 or non recrystal\$8 or non-recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:52
S57	6	(tantalum or ta) same (nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:55
S58	24	(tantalum or ta) and (nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 15:56
S59	57	(nonrecrystal\$8 or non recrystal\$8 or non- recrystal\$8) same anneal \$5	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 16:01
S60	7	"6566161"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2008/09/25 18:01

S61	17	("3930895"   "4111721"). PN. OR ("4334935"). URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/09/26 10:41
S62	4458	(tantalum or ta) same (sputter\$5) same target	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/09/26 11:28
S63	1135	(tantalum or ta) same (sputter\$5) same target and (anneal\$4 same \$5crystal\$8)	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/09/26 11:29
S64	42	(tantalum or ta) same (sputter\$5) same target and (anneal\$4 same \$5crystal\$8) and (tantalum or ta).ti.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/09/26 11:30
<b>S</b> 65	13	recrystalli\$6 with temperature with (below or less) same (tantalum or Ta) same sputter\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/03 23:09
S66	13	recrystalli\$6 with temperature with (below or less or under) same (tantalum or Ta) same sputter\$3	US-PGPUB; USPAT; USOOR; EPO; JPO; DERWENT	ADJ	ON	2009/06/03 23:17
S67	537	(non recrystalli\$6) or (non-recrystalli\$6)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/03 23:24
S68	30	S67 and (tantalum or Ta)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/03 23:24
S69	6	\$68 and sputter\$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/03 23:24
S70	15	("20020063056"   "20070062806"   "20070062807"   "6197134"   "6323055"   "6759143"   "6770154"   "6893513") PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 09:28
S71	68	(tantalum or Ta) with sputter\$3 same \$4recrystalli\$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 09:53
S72	81	(tantalum or Ta) same (\$4recrystalli\$6 with (percent or percentage or "%"))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 10:15

S73	28	S72 and sputter\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 10:17
S75	24	"6348139"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 12:28
S76	39	("4525417"   "4619695"   "4663120"   "4762558"   "4842706"   "4889745"   "4960163"   "5074907"   "5087297"   "5282946"   "5330701"   "5400633"   "5418071"   "5468401"   "5590389"   "5600989"   "5608911"   "5673581"   "5693203"   "5772860"   "5780755"   "578005"   "5993621") N. OR ("6348139").URPN.	US PGPUB; USPAT; USOCR	ADJ	ON	2009/06/04
S77	2	"20010054457"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/06/04 12:50
S78	150	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4	US-PGPUB; USPAT	ADJ	ON	2009/06/04 17:53
S79	800	(tantalum or ta) same \$5recrystal\$8	US-PGPUB; USPAT	ADJ	ON	2009/06/04 17:53
S80	22	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8 or non recrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2009/06/04 17:53
S81	80	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and target	US-PGPUB; USPAT	ADJ	ON	2009/06/04 17:53
S82	77	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and sputter \$3	US-PGPUB; USPAT	ADJ	ON	2009/06/04 17:53
S83	25	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2009/06/04 17:53
S84	501	(tantalum or ta) same target same amorphous	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:23

S85	102	(tantalum or ta) same sputtering target same amorphous	US-PGPUB; USPAT; USOOR; EPO; JPO	ADJ	ON	2010/02/25 16:23
S86	3	(tantalum or ta) sputtering target same amorphous	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:24
S87	1	"7179704"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:34
S88	1	"20030019326"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:38
S89	1	S88 and amorphous	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:38
S90	9	"6566161"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:41
S91	1	"9966100"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:48
S92	4	"0031310"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 16:53
S93	18	"6193821"	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/25 17:13
S94	4	"200031310"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2010/02/26 12:35
S95	5	"0031310"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2010/02/26 12:35
S96	73	148/668.ccls. and (tantalum or ta)	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:38
S97	322	204/298.12.ccls. and (tantalum or ta)	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:38
S98	162	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:39
S99	839	(tantalum or ta) same \$5recrystal\$8	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:39
S100	26	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8 or non recrystal\$8)	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:39

S101	87	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and target	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:39
S102	84	(tantalum or ta) same \$5recrystal\$8 and anneal \$3 and roll\$4 and sputter \$3	US-PGPUB; USPAT	ADJ	ON	2010/02/26 12:39
S103	30	(tantalum or ta) and (non-recrystal\$8 or nonrecrystal\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO	ADJ	ON	2010/02/26 12:39
S104	72	(tantalum or Ta) with sputter\$3 same \$4recrystalli\$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2010/02/26 12:40
S105	84	(tantalum or Ta) same (\$4recrystalli\$6 with (percent or percentage or "%"))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2010/02/26 12:40
S106	30	S105 and sputter\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2010/02/26 12:40

## EAST Search History (Interference)

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